METHOD AND APPARATUS FOR DEPOSITION & FORMATION OF METAL SILICIDES

ABSTRACT

Disclosed is a method and structure for forming a silicide on a silicon material. The invention places the silicon material in a vacuum environment, forms metal on the silicon material, and then heats the silicon surface and the metal without breaking the vacuum environment. The processes of forming the metal and heating the silicon can be performed simultaneously without breaking the vacuum environment to form the silicide as the metal is being deposited. After the foregoing processing, the invention can remove the silicon surface from the vacuum environment and perform additional heating of the silicon surface. The first heating process forms a monosilicide and the additional heating forms a disilicide.